

عنوان مقاله:

Pre and post natal exposure of 50 Hz electromagnetic fields on prostate glands of rats: an electron microscopy study

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خلاصه مقاله:

Background: Men are unavoidably exposed to ambient electromagnetic fields (EMF) generated from various electrical gadgets and from power transmission lines. Prostate gland plays an important role in secretion of semen as largest accessory gland of male reproductive system. It seems that protection of this gland against EMF is important in spermatogenesis process. Objective: The goal of this study was to investigate the effect of non ionizing radiation on ultra structure of prostate gland. Materials and Methods: In total 50 male and 50 female rats, aged 15 weeks, were mated in animal house of Tabriz University of Medical Sciences. Then among born rats, 20 randomly were chosen as control and 30 were randomly chosen for exposure to EMF. They were exposed to 50 Hz EMF (8 M.T.) during in utero development (approximately 3 weeks) and postnatal life (5 weeks). Samples of prostate gland were processed and observed under light and transmission electron microscope. Results: In the experimental group, the secretory epithelial cells were generally inactive and cuboidal and their nuclei were dense with more corpus amyloace compared to the control. Smooth muscle fibers spread out in different directions with heterochromatic nuclei. Mitochondria seemed without cristae and electron opaque. Conclusion: The results indicate that EMF had a deleterious effect on ultra structure of prostate gland in rat.

کلمات کلیدی:

Electromagnetic fields, Prostate, Rats

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